BASIS FOR DECISION MEMO

Designated Name: **DTE-Monroe Plt**
Permit No. MI0001848

Date: May 12, 2021
Processor: Christine Aiello

Monitoring Point 001A: Authorization to discharge 1978 MGD of noncontact cooling water, **treated** bottom ash transport water, **treated** fly ash transport water, **treated** coal pile runoff, **treated** chemical and nonchemical metal cleaning wastewater, low volume wastewater, treated flue gas desulfurization wastewater, flue gas desulfurization pre-treatment system backwash, and **dredging dewatering water**, and **an unspecified amount of** storm water from Monitoring Point 001A through Outfall 001. Outfall 001 discharges to Lake Erie.

	Maximum Limits for Quantity or Loading			*Maximum Limits for Quality or Concentration*				
Parameter	*Monthly*	*Daily*	*Units*	*Monthly*	*Daily*	*Units*	*Monitoring Frequency*	*Sample Type*
Flow	*(report)*	*(report)*	*MGD*	---	---	---	*Daily*	*Report Total Daily Flow*
Total Residual Chlorine (TRC)								
Discharge Mode								
Continuous (greater than 160 min/day)			---	---	*38*	*µg/l*	*5x Weekly*	*Grab*
Intermittent (less than/equal to 160 min/day)			---	---	*200*	*µg/l*	*5x Weekly*	*Grab*
TRC Discharge Time	---	---	---	---	*(report)*	*min/day*	*5x Weekly*	*Report Total Discharge Time*
Dechlorination Reagent	---	*(report)*	*lbs/day*	---	---	---	*Daily*	*Calculation*
Temperature								
Intake	---	---	---	---	*(report)*	*ºF*	*Daily*	*Reading*
Discharge	---	---	---	---	*(report)*	*ºF*	*Daily*	*Reading*
Outlet to Lake Erie	---	---	---	---	*(report)*	*ºF*	*See Part I.A.1.f.*	*Reading*
Heat Addition	---	*15500*	*MBTU/Hr*	---	---	---	*Daily*	*Calculation*
Outfall Observation	*(report)*	---	*yes/no*	---	---	---	*Daily*	*Visual*
Total Mercury	*(report)*	---	*lbs/day*	*(report)*	---	*ng/l*	*Monthly*	*Grab*
	12-Month Rolling Average			*12-Month Rolling Average*				
Total Mercury	*0.16*	---	*lbs/day*	*10*	---	*ng/l*	*Monthly*	*Calculation*
				Minimum Daily	*Maximum Daily*			
pH	---	---	---	*6.5*	*9.0*	*S.U.*	*Weekly*	*Grab*

Parameter	Maximum Limits for Quantity or Loading: Monthly	Daily	Units	Maximum Limits for Quality or Concentration: Monthly	Daily	Units	Monitoring Frequency	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Daily	Report Total Daily Flow	PWJ
Temperature									
Intake	---	---	---	---	(report)	ºF	Daily	Reading	WQC
Discharge	---	---	---	---	(report)	ºF	Daily	Reading	WQC
Outlet to Lake Erie									
Through [PERMIT EFFECTIVE DATE – 5 YEARS FROM PERMIT EFFECTIVE DATE]	---	---	---	---	(report)	ºF	See h. below	Reading	WQC
Beginning [5 YEARS FROM PERMIT EFFECTIVE DATE]					°94	ºF	See h. below	Reading	WQBEL
Thermal Discharge	---	15,500	MBTU/Hr	---	---	---	Daily	Calculation	WQBEL
Total Copper	---	---	---	---	(report)	ug/l	Quarterly	Grab	WQC
Outfall Observation	(report)	---	---	---	---	---	Daily	Visual	PWJ
Total Mercury									
Corrected	(report)	(report)	lbs/day	(report)	(report)	ng/l	Monthly	Calculation	WQC
Uncorrected	---	---	---	---	(report)	ng/l	Monthly	Grab	WQC
Field Duplicate	---	---	---	---	(report)	ng/l	Monthly	Grab	WQC
Field Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	WQC
Laboratory Method Blank		---	---	---	(report)	ng/l	Monthly	Preparation	WQC
	12-Month Rolling Average			12-Month Rolling Average					
Total Mercury	0.099	---	lbs/day	6.0	---	ng/l	Monthly	Calculation	WQV
				Minimum Daily					
pH	---	---	---	6.5	9.0	S.U.	Weekly	Grab	WQS

Parameter	Maximum Limits for Quantity or Loading: Monthly	Daily	Units	Maximum Limits for Quality or Concentration: Monthly	Daily	Units	Monitoring Frequency	Sample Type	Basis for Limits
Dechlorination Reagent		**(report)**	**lbs/day**	**---**	**---**	**---**	**Daily**	**Calculation**	**WQC**
Total Residual Chlorine (TRC)		**---**	**---**	**---**	**38**	**ug/l**	**5x Weekly**	**Grab**	**WQBEL**

Monitoring Point 001B: Authorization to discharge **an unspecified amount of** *38.4 MGD of bottom ash transport water, coal pile runoff, chemical and nonchemical metal cleaning wastes, treated flue gas desulfurization wastewater, flue gas desulfurization pre-treatment system backwash, fly ash transport water, miscellaneous low volume wastes, and storm water runoff* **stormwater impacted by residual process wastewater within an inactive coal combustion residual (CCR) basin** from Monitoring Point 001B through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading: Monthly	Daily	Units	Maximum Limits for Quality or Concentration: Monthly	Daily	Units	Monitoring Frequency	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	BPJ
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	BPJ
Total Copper	---	---	---	---	*1.0*	*mg/l*	*Daily Per Occurrence*	*Grab*	
Total Iron	---	---	---	---	*1.0*	*mg/l*	*Daily Per Occurrence*	*Grab*	
Total Mercury	*(report)*	---	*lbs/day*	*(report)*	---	*ng/l*	*Monthly*	*Grab*	
Total Residual Chlorine (TRC)		---	---	---	*(report)*	*mg/l*	*See Part I.A.2.c.*	*Grab*	

Monitoring Point 001D: Authorization to discharge 1.5 MGD of low volume wastewater from Monitoring Point 001D through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	250	830	lbs/day	30	100	mg/l	Weekly	Grab	AD/ELG
Oil & Grease	---	130	lbs/day	**---**	15	mg/l	Monthly	Grab	AD

Monitoring Point 001F: Authorization to discharge 19.4 MGD of fly ash transport water **and an unspecified amount of storm water** from Monitoring Point 001F through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	ELG
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	ELG

Monitoring Point 001G: Authorization to discharge 1 MGD of bottom ash transport water and nonchemical metal cleaning wastewater from Monitoring Point 001G through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	ELG
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	ELG
Additional Requirements Effective December 31, 2025									
BATW Flow	---	(report)	MGD	---	---	---	Daily	Report Total Daily Flow	PWJ
	30-Day Rolling Average								
BATW Flow	0.3603	---	MGD	---	---	---	Daily	Calculation	ELG

Monitoring Point 001H: Authorization to discharge 38.4 MGD of bottom ash transport water, fly ash transport water, coal pile runoff, chemical and nonchemical metal cleaning wastewater, low volume wastewater, treated flue gas desulfurization wastewater, flue gas desulfurization pre-treatment system backwash, dredging dewatering water, and storm water from Monitoring Point 001H through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading			Maximum Limits for Quality or Concentration			Monitoring Frequency	Sample Type	Basis for Limits
	Monthly	Daily	Units	Monthly	Daily	Units			
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	ELG
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	ELG
Total Copper	---	---	---	---	1.0	mg/l	Daily Per Occurrence	Grab	ELG
Total Iron	---	---	---	---	1.0	mg/l	Daily Per Occurrence	Grab	ELG
Total Residual Chlorine (TRC)	---	---	---	---	(report)	ug/l	See c. below	Grab	BPJ
Tier 1 Limits: If Part I.A.16.e.2) of this permit applies, then by December 31, 2025, the following additional limits apply:									
Total Arsenic	---	---	---	8	18	ug/l	Weekly	Grab	ELG
Total Selenium	---	---	---	29	70	ug/l	Weekly	Grab	ELG
Nitrate/Nitrite as N	---	---	---	3	4	mg/l	Weekly	Grab	ELG
Total Mercury									
Corrected	---	---	---	34	103	ng/l	Monthly	Calculation	ELG
Uncorrected	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Duplicate	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ
Laboratory Method Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Monitoring Frequency	Sample Type	Basis for Limits
Tier 2 Limits: If Part I.A.16.f.3) of this permit applies, then by December 31, 2028, the following additional limits apply:									
Total Arsenic	---	---	---	---	5	ug/l	Weekly	Grab	ELG
Total Selenium	---	---	---	---	10	ug/l	Weekly	Grab	ELG
Nitrate/Nitrite as N	---	---	---	1.2	2.0	mg/l	Weekly	Grab	ELG
Bromide	---	---	---	---	0.2	mg/l	Weekly	Grab	ELG
Total Dissolved Solids	---	---	---	149	306	mg/l	Weekly	Grab	ELG
Total Mercury									
Corrected	---	---	---	10	23	ng/l	Monthly	Calculation	ELG
Uncorrected	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Duplicate	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ
Laboratory Method Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ
Additional Requirements Effective December 31, 2025									
BATW Flow	---	(report)	MGD	---	---	---	Daily	Report Total Daily Flow	PWJ
	30-Day Rolling Average								
BATW Flow	0.3603	---	MGD	---	---	---	Daily	Calculation	ELG

Monitoring Point 001J: Authorization to discharge 4.6 MGD of flue gas desulfurization wastewater and chemical and nonchemical metal cleaning wastewater from Monitoring Point 001J through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading			Maximum Limits for Quality or Concentration			Frequency of Analysis	Sample Type	Basis for Limits
	Monthly	Daily	Units	Monthly	Daily	Units			
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	ELG
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	ELG
Total Copper	---	---	---	---	1.0	mg/l	Daily Per Occurrence	Grab	ELG
Total Iron	---	---	---	---	1.0	mg/l	Daily Per Occurrence	Grab	ELG
Tier 1 Limits: If Part I.A.16.e.2) of this permit applies, then by December 31, 2025, the following additional limits apply:									
Total Arsenic	---	---	---	8	18	ug/l	Weekly	Grab	ELG
Total Selenium	---	---	---	29	70	ug/l	Weekly	Grab	ELG
Nitrate/Nitrite as N	---	---	---	3	4	mg/l	Weekly	Grab	ELG
Total Mercury									
Corrected	---	---	---	34	103	ng/l	Monthly	Calculation	ELG
Uncorrected	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Duplicate	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ
Laboratory Method Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type	Basis for Limits
Tier 2 Limits: If Part I.A.16.f.3) of this permit applies, then by December 31, 2028, the following additional limits apply:									
Total Arsenic	---	---	---	---	5	ug/l	Weekly	Grab	ELG
Total Selenium	---	---	---	---	10	ug/l	Weekly	Grab	ELG
Nitrate/Nitrite as N	---	---	---	1.2	2.0	mg/l	Weekly	Grab	ELG
Bromide	---	---	---	---	0.2	mg/l	Weekly	Grab	ELG
Total Dissolved Solids	---	---	---	149	306	mg/l	Weekly	Grab	ELG
Total Mercury									
Corrected	---	---	---	10	23	ng/l	Monthly	Calculation	ELG
Uncorrected	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Duplicate	---	---	---	---	(report)	ng/l	Monthly	Grab	PWJ
Field Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ
Laboratory Method Blank	---	---	---	---	(report)	ng/l	Monthly	Preparation	PWJ

Monitoring Point 001K: Authorization to discharge 2.4 MGD of nonchemical metal cleaning wastewater from Monitoring Point 001K through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to Lake Erie.

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type	Basis for Limits
Flow	(report)	(report)	MGD	---	---	---	Weekly	Report Total Daily Flow	PWJ
Total Suspended Solids	---	---	---	30	100	mg/l	Weekly	Grab	ELG
Oil & Grease	---	---	---	15	20	mg/l	2x Monthly	Grab	ELG

Monitoring Point 003A: Authorization to discharge an unspecified amount of storm water runoff from Monitoring Point 003A through Outfall 003. Outfall 003 discharges to the River Raisin.

	Maximum Limits for Quantity or Loading			*Maximum Limits for Quality or Concentration*					
Parameter	*Monthly*	*Daily*	*Units*	*Monthly*	*Daily*	*Units*	*Frequency of Analysis*	*Sample Type*	*Basis for Limits*
Outfall Observation	*(report)*	---	*yes/no*	---	---	---	*Monthly During Discharge*	*Visual*	

PERMIT CONDITIONS:
Final Effluent Limitations, Monitoring Point 001A
Final Effluent Limitations, Monitoring Point 001B
Final Effluent Limitations, Monitoring Point 001D
Final Effluent Limitations, Monitoring Point 001F
Final Effluent Limitations, Monitoring Point 001G
Final Effluent Limitations, Monitoring Point 001H
Final Effluent Limitations, Monitoring Point 001J
Final Effluent Limitations, Monitoring Point 001K
Final Effluent Limitations, Monitoring Point 003A
Temperature Modification
Cold Shock Prevention
Fish Passing Facility – Outfall 002
Zebra Mussel Control Program
Monroe Metropolitan Area Pollution Control Facility Discharge
Taprogge Debris Filter Backwash – Outfall 004
Request for Approval to Use Water Treatment Additives
Pollutant Minimization Program for Total Mercury
Schedule of Compliance for Bottom Ash Transport Water Discharge
Schedule of Compliance for Flue Gas Desulfurization Wastewater Discharge
Schedule of Compliance for Fly Ash Transport Water Discharge
Schedule of Compliance for Cessation of Coal Burning Activities
316(a) Thermal Demonstration Update (formerly named Thermal Plume Study)
Cooling Water Intake Structures – Interim Approval
Facility Contact
Discharge Monitoring Report – Quality Assurance Study Program
Quantification Levels and Analytical Methods for Selected Parameters
Power Plants – PCB Prohibition
Storm Water Pollution Prevention (Special-Use)

NOTES:

Historically, the Department has not included storm water pollution prevention (SWPP) requirements in this facility's permit because its industrial storm water undergoes treatment through its NPDES system. In its application for reissuance, however, the permittee requested that SWPP requirements be included in the permit to address a planned change in facility operations, and the draft permit reflects this. Additionally, SWPP requirements are necessary because outfall 003 was removed from the draft permit, and it discharges only regulated industrial storm water, including storm water from secondary containment structures required by state and/or federal law, which are appropriately covered under a SWPPP.

Outfall 004 was removed from the draft permit. The planned treatment system was never built and the facility no longer has plans to build it.

The wastewater that once discharged from 001B is now discharged from 001H. The basin now discharging through monitoring point 001B (an inactive coal combustion residual basin) comprises only storm water impacted by residual process wastewater. For this reason, all but TSS and oil & grease limits have been removed from the draft permit at this monitoring point; the remaining limits are retained based on BPJ.

At the permittee's request, new internal monitoring points (001G, 001H, 001J, and 001K) have been added to the draft permit. Internal monitoring points 001G, 001J, and 001K will be used by the facility on an as-needed basis as alternate monitoring points for specified components of the 001H effluent. These alternate monitoring points do not represent, nor do they authorize, an increased discharge flow rate of any wastewater type through the external monitoring point (001A).

At monitoring point 001D, the TSS load limits, and the oil & grease concentration and load limits, are based on an earlier version of the permit that increased the authorized flow but held the load at the previously authorized flow rate, and they are retained in the draft permit based on antidegradation.

Amanda Bosak's WQBEL Memo indicates that scans completed for the application did not use sufficiently sensitive quantification levels for 3,3-Dichlorobenzidine, Benzidine, Hexachlorobenzene, and Hexachlorobutadiene, and based on that, she recommended that an annual monitoring requirement be included in the draft permit. This recommendation has not been implemented because these parameters are not expected in this facility's discharge. The draft permit does, however, specifically communicate maximum acceptable QLs for these and other parameters, which the current permit does not.

Following discussions with Amanda Bosak, a monitoring frequency reduction allowance has been provided for total copper at monitoring point 001A.

Limit Change Key
Normal Type = existing requirement – carried over from previous version
Bold Type = new requirement – not in previous version
Italic = deleted requirement – not carried over from previous version

Basis for Limits Key
AD - Antidegradation
BPJ - Best Professional Judgment of appropriate treatment technology based effluent limits in the absence of applicable federal guidelines
ELG - Treatment Technology Based Effluent Limit based on federal guidelines (BAT, BPT, etc.)
PWJ - Permit Writer's Judgment
WQBEL - Water Quality Based Effluent Limit
WQC - Water Quality Concerns
WQS - Water Quality Standards
WQV - Water Quality Variance